REMARKS

Entry of the foregoing amendment(s) is respectfully requested.

The claims have been amended to eliminate multiple dependency and to place them in better condition for U.S. patent practice.

Should the Examiner have any questions concerning the subject application, a telephone call to the undersigned would be appreciated.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: William C. Rowland
William C. Rowland
Registration No. 30,888

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: August 3, 2001

<u>**Attachment to Preliminary Amendment dated August 3, 2001**</u>

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

3.   (Amended) A photonic crystal fibre as claimed in claim 1 [or claim 2], in which the birefringence is such that light with a wavelength of 1.5 microns propagating in the fibre has a beat length of less than 5 mm.

4.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the fibre has two-fold rotational symmetry.

5.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the rotational symmetry is about an axis passing through the core.

8.   (Amended) A photonic crystal fibre as claimed in [any of claims 1 to 5] claim 1, in which the core does not include a hole.

9.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the arrangement of holes has at-most-two-fold rotational symmetry about an axis parallel to the longitudinal axis of the fibre.

10.   (Amended) A photonic crystal fibre as claimed in [any of claims 1 to 8] claim 1, in which the arrangement of holes has higher-than-two-fold rotational symmetry about an axis parallel to the longitudinal axis of the fibre.

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

11.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry at least partly results from a variation, across the cross-section of the fibre, in the microstructure of the core.

12.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry at least partly results from a variation, across the cross-section of the fibre, in the diameter of the holes.

13.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry at least partly results from a variation, across the cross-section of the fibre, in the bulk material.

14.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry at least partly results from a variation, across the cross-section of the fibre, in the material contained in the holes.

15.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry at least partly results from a variation, across the cross-section of the fibre, in the shape of the holes.

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

17.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the lack of higher rotational symmetry results from a variation across the cross-section of the fibre, in one of the following in combination with one or more of the following or with a variation in another parameter: the microstructure of the core, the diameter of the holes, the bulk material, the material contained in the holes, the shape of the holes.

18.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the birefringent fibre has form birefringence.

19.   (Amended) A photonic crystal fibre as claimed in [any preceding] claim 1, in which the birefringent fibre has stress birefringence.

22.   (Amended) A method as claimed in claim 20 [or 21], in which the lack of higher rotational symmetry at least partly results from variations, across the cross-section of the stack, in the internal diameters of the capillaries.

23.   (Amended) A method as claimed in [any of claims 20 to 22] claim 20, in which the lack of higher rotational symmetry at least partly results from variations, across the cross-section of the stack, in the material of which the canes are made.

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

24.   (Amended) A method as claimed in [any of claims 20 to 23] claim 20, in which the lack of higher rotational symmetry at least partly results from variations, across the cross-section of the stack, in the material with which the capillaries are filled.

25.   (Amended) A method as claimed in [any of claims 20 to 24] claim 20, in which the lack of higher rotational symmetry at least partly results from variations, across the cross-section of the stack, in the external diameter of the canes.

26.   (Amended) A method as claimed in [any of claims 20 to 25] claim 20, in which canes are provided at the vertices of a cladding lattice which has at-most-two-fold rotational symmetry about the centre of the canes arranged to form the core.

27.   (Amended) A method as claimed in [any of claims 20 to 25] claim 20, in which capillaries of selected internal diameters are provided at the vertices of a cladding lattice which has at-most-two-fold rotational symmetry about the centre of the canes arranged form the core, the selected internal diameters of the capillaries at the vertices of the cladding lattice being different from the internal diameters of the capillaries at other sites.

28.   (Amended) A method as claimed in [any of claims 20 to 27] claim 20, in which a substantial number of cladding canes, near to the canes arranged to form the core,

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

are different from a substantial number of cladding canes, far from the canes arranged to form the core.

29.   (Amended) A method as claimed in [any of claims 20 to 28] <u>claim 20</u>, in which the birefringence results at least partly from stresses formed within the fibre as it is drawn.

32.   (Amended) A method as claimed in [any of claims 29 to 31] <u>claim 29</u> in which the stresses result in the deformation of holes surrounding the core of the drawn fibre and that deformation results in birefringence.

33.   (Amended) A method as claimed in [any of claims 29 to 31] <u>claim 29</u> in which the stresses result in stresses in the core of the drawn fibre, and those stresses result in birefringence.

34.   (Amended) A method as claimed in [any of claims 20 to 33] <u>claim 20</u>, in which the lack of rotational symmetry at least partly results from pressurisation of at least one of the capillaries during the drawing of the stack.

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

35.　　(Amended)　A method as claimed in [any of claims 20 to 34] claim 20, in which the lack of rotational symmetry at least partly results from evacuation of at least one of the capillaries during the drawing of the stack.

36.　　(Amended)　A method as claimed in [any of claims 20 to 35] claim 20, in which the rotational symmetry of the stack of canes is two-fold rotational symmetry.

40.　　(Amended)　A method as claimed in [any of claims 37 to 39] claim 37, in which the tube does not undergo deformation significantly different from that which it would undergo without the pressure difference.

41.　　(Amended)　A method as claimed in [any of claims 37 to 40] claim 37, in which, during the drawing process:

the tube is sealed near to the first end to a first end of an evacuatable structure and the second end of the tube is within the evacuatable structure;

at least some of the capillaries pass through the evacuatable structure and are sealed to a second end thereof;

and the evacuatable structure is substantially evacuated in order to produce the second internal pressure.

Attachment to Preliminary Amendment dated August 3, 2001

Marked-up Claims 3-5, 8-15, 17-19, 22-29, 32-36, 40-41 and 43

43.   (Amended) A method as claimed in [any of claims 37 to 42] <u>claim 37</u>, in which the stack of canes has at-most-two-fold rotational symmetry about any of the longitudinal axes.